



PRESSURE REDUCING TOP PILOT VALVE

Model IR-12T-3W-X

The BERMAD Top Pilot Pressure Reducing Control valves offer top performance, compact design and intuitive plug-and-play operation, thanks to an innovative integrated pilot, equipped with a high resolution adjustment dial for easy, quick & accurate calibration.

Model IR-12T-3W-X reduces higher upstream pressure to a calibrated constant downstream pressure, regardless of flow fluctuations and opens fully when line pressure drops below setting.



- [1] BERMAD Model IR-12T-3W-X establishes reduced pressure zone, protecting laterals and distribution line.
- [2] Kinetic Air Valve
- [3] Combination Air Valve

Features and Benefits

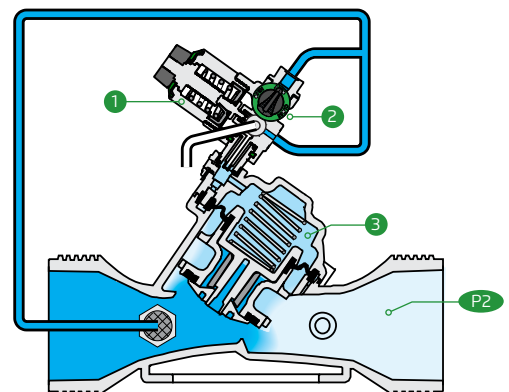
- Line Pressure Driven, Hydraulically Controlled (on/Off)
 - Protects downstream systems
 - Opens fully when line pressure drop
- 3-Way Integrated pilot - user friendly design
 - Adjustment knob and high resolution scale for easy calibration without pressure gauge
 - Compact "Box-Size" solution
 - Solenoid control is easily added or removed
 - Uniquely suitable to all size range up to 3"
- Engineered Plastic Valve with Industrial Grade Design
 - Adaptable on-site to a wide range of end connection sizes and types
 - Highly durable, chemical & cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
 - Ultra-high flow capacity at Low pressure loss
- Unitized Flexible Super Travel Diaphragm with a Guided Plug
 - Accurate and stable regulation with smooth closing
 - Requires low actuation pressure
 - Prevents diaphragm erosion and distortion

Typical Applications

- Systems Subject to Varying Supply Pressure
- Plot valves in Drip & Sprinklers irrigation systems
- Energy Saving Irrigation Systems

Operation:

The Pressure Reducing Pilot ① commands the Valve to throttle closed should Downstream Pressure P2 rise above setting and to open fully when it drops below setting. The Integrated Trio Selector ② enables manual closing and opening override or automatic hydraulic control, in which the pilot connects valve control chamber ③ with line pressure to throttle close the valve or vents it through the pilot to open the valve.





IR-12T-3W-X

Technical Data

Pressure Rating:
10 bar; 145 psi

Operating Pressure Range:
0.5-10 bar; 7-145 psi

Setting Range:
0.8-6 bar; 12-80 psi

Setting ranges vary according to specific pilot spring. Please consult factory

Materials:

Body, Cover and Plug:
Glass-Filled Nylon

Diaphragm:
NR, Nylon fabric reinforced

Seals: NR

Spring: Stainless Steel

Cover Bolts: Stainless Steel

Control Accessories:

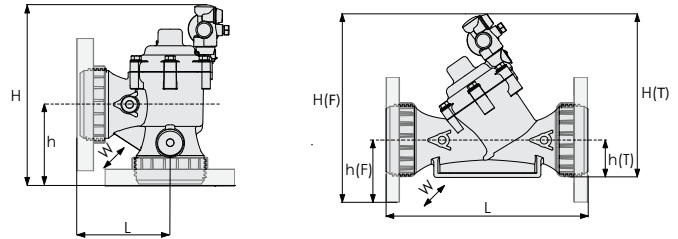
Pilot Spring Range:

| Dial Code | Spring Color | Adjustment Knob Color | Setting Range |
|-----------|--------------|-----------------------|---------------|
| J2 | Black | Black | 12-80 psi |
| H2 | | | 0.8-6.0 bar |

Technical Specifications

Y Pattern Valves Dimensions & Weights

For [BERMAD](#) dual & T pattern, Please see our full engineering page.



| Pattern | | Oblique (Y) | | | | Oblique (Y) | | Angle (A) | | | | | |
|-----------------|------|---------------------------------|---------|-----------|-------------------|-------------|---------------------------|---------------------------------|---------|-------------------|-------|-----|-----|
| Size Inch ; mm | | 1½" ; 40 | 2" ; 50 | 2"L ; 50L | 3" ; 80 | 2" ; 50 | 2½" ; 65 | 2" ; 50 | 3" ; 80 | | | | |
| End Connections | | Internal Threaded (BSP-T / NPT) | | | Universal Flanges | | External Threaded (BSP-F) | Internal Threaded (BSP-T / NPT) | | Universal Flanges | | | |
| | | | | | Plastic | Metal | | | | Plastic | Metal | | |
| Length (mm) | L | 200 | 230 | 298 | 308 | | 230 | 115 | 133 | 138 | | | |
| Height (mm) | H(F) | | | | 314 | | - | | | 299 | | | |
| | H(T) | 238 | 257 | 269 | - | 238 | 257 | 279 | 294 | - | | | |
| | h(F) | | | | 100 | | - | | | 123 | | | |
| | h(T) | 40 | 43 | 55 | - | 40 | 43 | 115 | 118 | - | | | |
| Width (mm) | W | 142 | 152 | | 200 | 142 | 152 | 142 | 152 | 200 | | | |
| CCDV (lit) | | 0.12 | 0.15 | | | 0.12 | 0.15 | 0.12 | 0.15 | | | | |
| Weight (Kg) | | 1.3 | 1.4 | 1.7 | 1.8 | 2.7 | 4.6 | 1.3 | 1.4 | 1.4 | 1.8 | 2.7 | 4.6 |

CCDV = Control Chamber Displacement Volume

Other End Connections are available on request. For dimensions and weights of adapters or valve with adapters please consult with customer service

Flow Properties

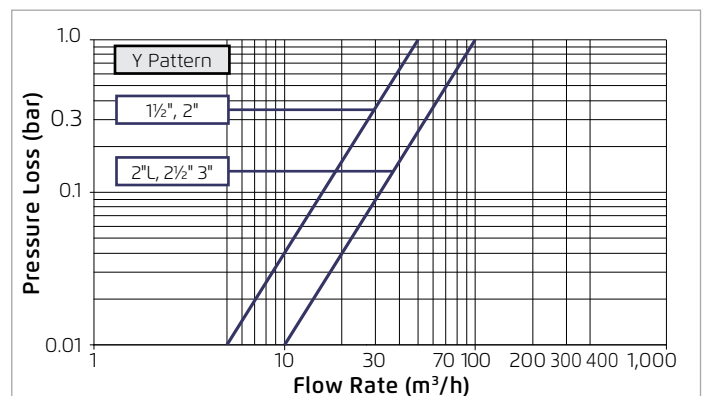
| Sizes | Inch DN | 1½" | 2" | 2"L | 2½" | 3" |
|-------|---------|-----|----|-----|-----|-----|
| | DN | 40 | 50 | 50L | 65 | 80 |
| KV | | 50 | 50 | 100 | 100 | 100 |

Valve Flow Coefficient

$$\Delta P = \left(\frac{Q}{Kv} \right)^2$$

$Kv = m^3/h @ \Delta P \text{ of } 1 \text{ bar}$
 $Q = m^3/h$
 $\Delta P = \text{bar}$

Flow Chart



www.bermad.com

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